2. (Reiterated) The method of claim 1, wherein the binding medium is comprised of poly(styrene-divinylbenzene).

3. (Reiterated) The method of claim 1, wherein the binding medium is a column comprised of particles having a diameter of about 1 micron to about 250 microns.

4. (Reiterated) The method of claim 3, wherein the binding medium is a column comprised of particles having a diameter of about 50 to about 75 microns.

Please cancel claim 5 without prejudice.

6. (Amended) The method of claim 1 [5], wherein the unbuffered aqueous solution is water.

7. (Amended) The method of claim 1 [5], wherein the column is rinsed repeatedly to achieve [and wherein] an effluent conductivity following rinsing [is] at or below 100 microSiemens/cm.

8. (Amended) The method of claim 7, wherein the column is rinsed repeatedly to achieve [and wherein] an effluent conductivity following rinsing [is] at or below 25 microSiemens/cm.

9. (Reiterated) The method of claim 1, wherein the nucleic acid has been modified with a compound selected from the group consisting of: biotin, fluorescein and related dyes, spacers, thiol modifiers, amino modifiers, carboxylate modifiers, or any combination of these.

10. (Reiterated) The method of claim 1, wherein the nucleic acid is selected from the group consisting of: a DNA phosphodiester, RNA phosphodiester, phosphorothioate, methylphosphonate, 2'-O-methyl RNA, 2'-O-alkyl RNA, 2'-O-methyl DNA, 2'-O-alkyl DNA and chimeras containing such structures.

11. (Reiterated) The method of claim 1, wherein the nucleic acid comprises nucleotide bases selected from the group consisting of: 5-methylcytidine, inosine, halogenated uridines, etheno-bases, dideoxynucleosides, and inverted bases.

12. (Reiterated) The method of claim 1, wherein the nucleic acid is comprised of inverted 3'-5' linkages.

13. (Reiterated) The method of claim 1, wherein the nucleic acid is comprised of 5'-2' linkages.

14. (Amended) The method of claim 1, wherein the nucleic acid is an oligonucleotide comprised of about [1] 2 to about 100 nucleotides.

15. (Reiterated) The method of claim 1, wherein the sample is the product of strong anion exchange chromatography.

16. (Reiterated) The method of claim 1, wherein the sample is the product of weak anion exchange chromatography.

17. (Reiterated) The method of claim 1, wherein the sample is derived from a biological source material.

18. (Reiterated) The method of claim 1, wherein the non-toxic aqueous organic solvent is an alcohol selected from the group consisting of [acetonitrile,] n-propanol, isopropanol, [or] and methanol.

19. (Reiterated) The method of claim 1, wherein the non-toxic aqueous organic solvent is aqueous ethanol.

20. (Reiterated) A method of exchanging a cation associated with a nucleic acid in a sample, comprising the steps of:

contacting a nucleic acid associated with a first cation with a binding medium comprising a strongly hydrophobic base matrix;

rinsing the nucleic acid bound to the binding medium with an unbuffered aqueous solution prior to elution;

contacting the bound nucleic acid with a solution comprised of a second cation; and

eluting the nucleic acid associated with the second cation from the binding medium;

wherein the second cation effectively displaces the first cation in the effluent sample.

Please add the following new claim:

21. (New) ~~The method of claim 1,~~ wherein the nucleic acid is a monomer. --

REMARKS

Claims 1-4 and 6-21 are pending in this application. Claim 5 has been canceled without prejudice.

Claims 1, 6-8, and 14 have been amended, and claim 21 added, to more particularly point out and distinctly claim the invention. Support for the amendment to claim 1 can be found in originally filed claim 5, page 8 at lines 14-17, and at page 15 line 9. Support for the amendment to claim 14 and for new claim 21 can be found throughout the specification and in originally filed claim 14. Support for the amendment to claims 7 and 8 have been amended to page 15, lines 11-12. Claims 6 and 7 have also been amended to correct dependency. Claims which have not been amended have been reiterated for the convenience of the Examiner.

RESPONSE IN THE GENERAL

The presently pending claims are directed to improved methods for concentrating and desalting oligonucleotides following a purification procedure. The use of materials that strongly adhere to nucleic acids, such as poly(styrene-divinylbenzene), allows the use of an unbuffered aqueous solution to wash the